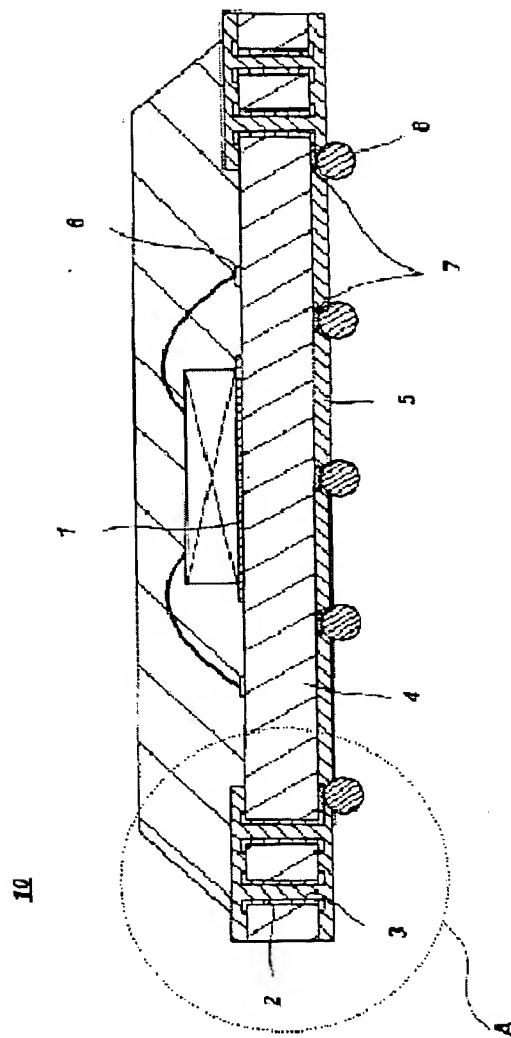


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Fig. 1

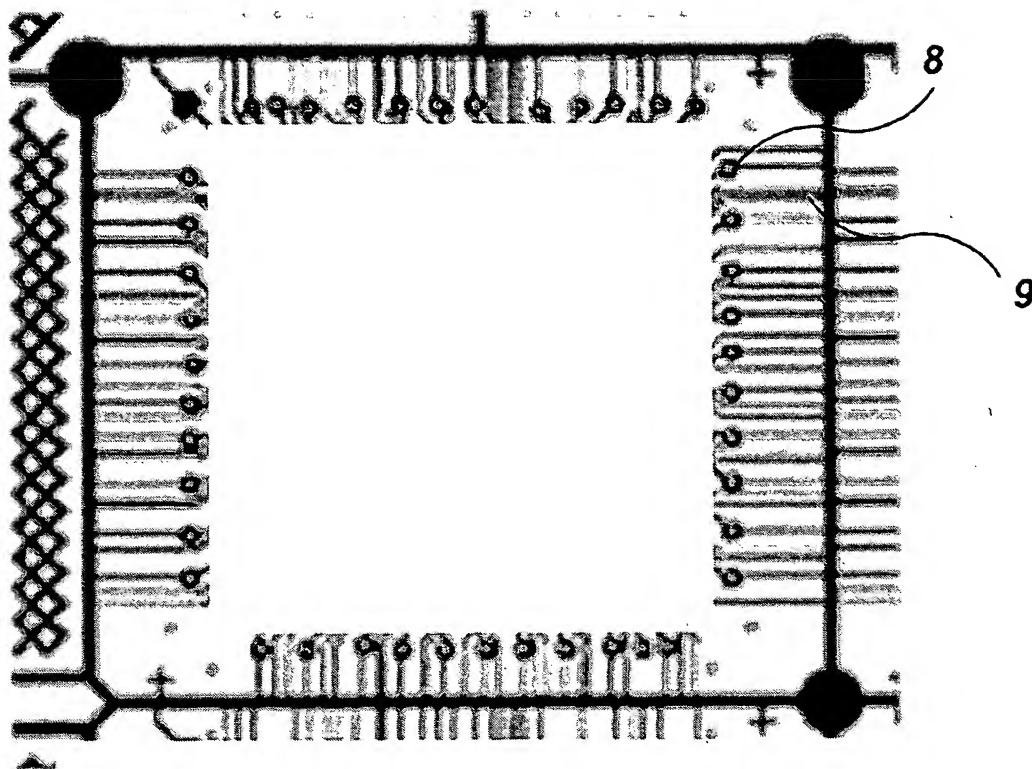
PRIOR ART



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Fig. 2

PRIOR ART



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Fig. 3a

PRIOR ART

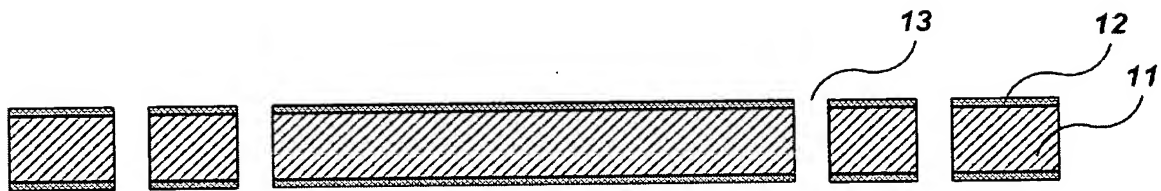


Fig. 3b

PRIOR ART

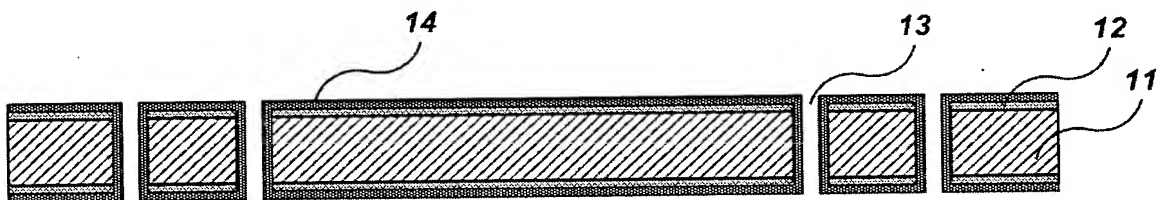
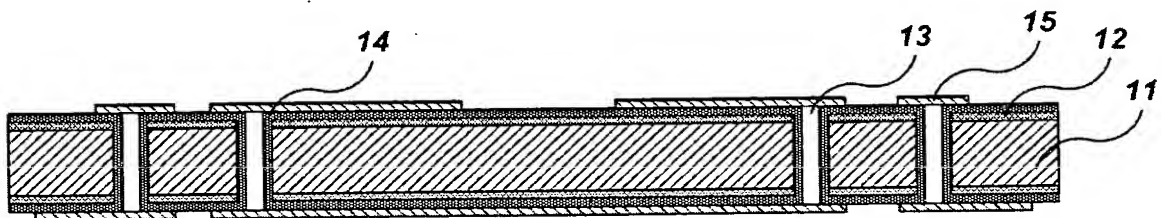


Fig. 3c

PRIOR ART



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Fig. 3d

PRIOR ART

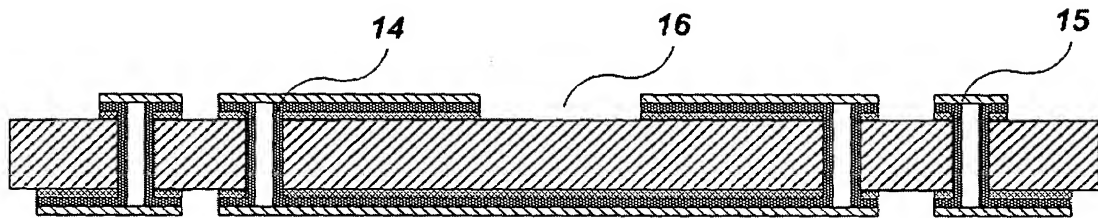


Fig. 3e

PRIOR ART

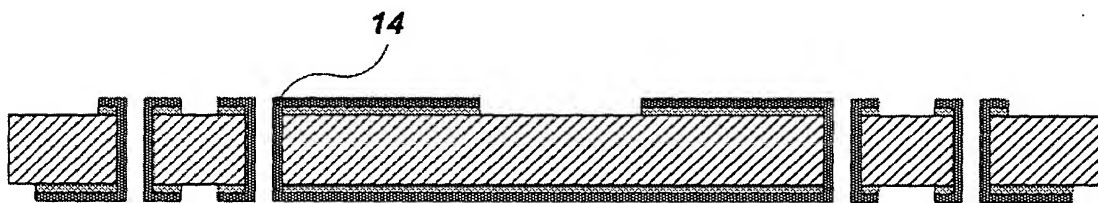
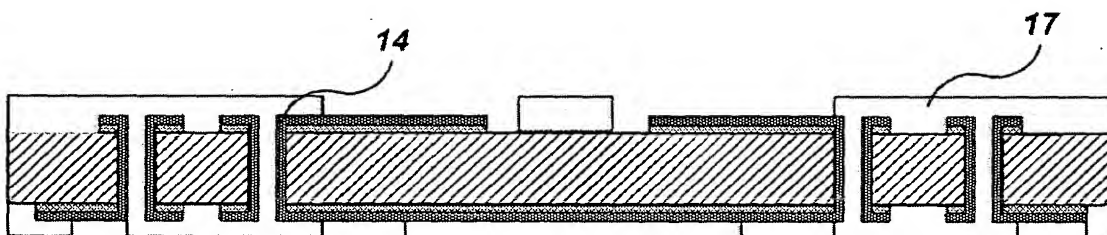


Fig. 3f

PRIOR ART



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Fig. 3g

PRIOR ART

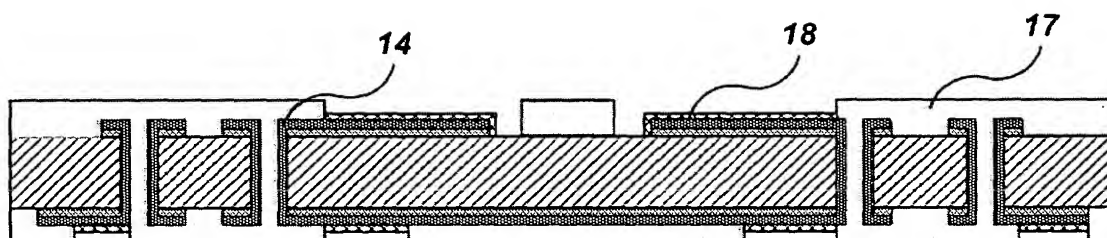
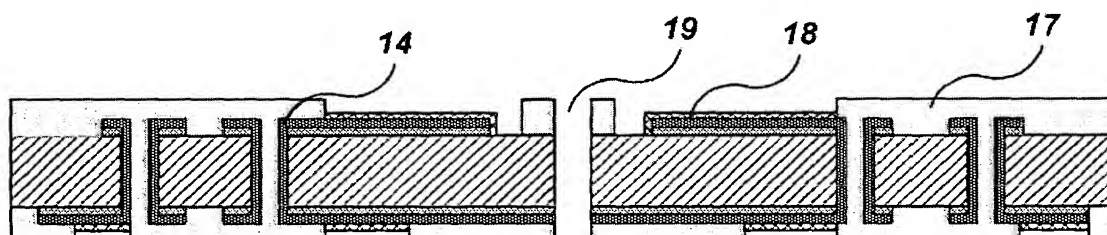


Fig. 3h

PRIOR ART



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Fig. 4a

PRIOR ART

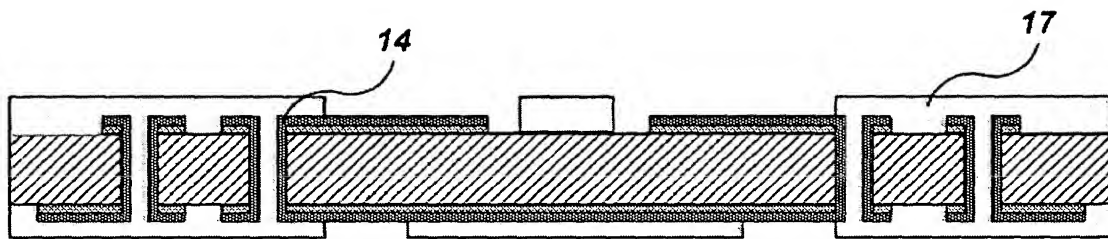
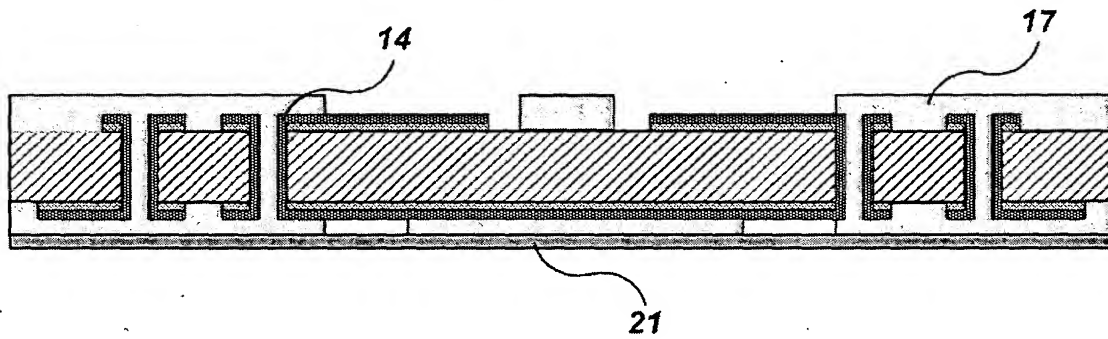


Fig. 4b

PRIOR ART



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Fig. 4c

PRIOR ART

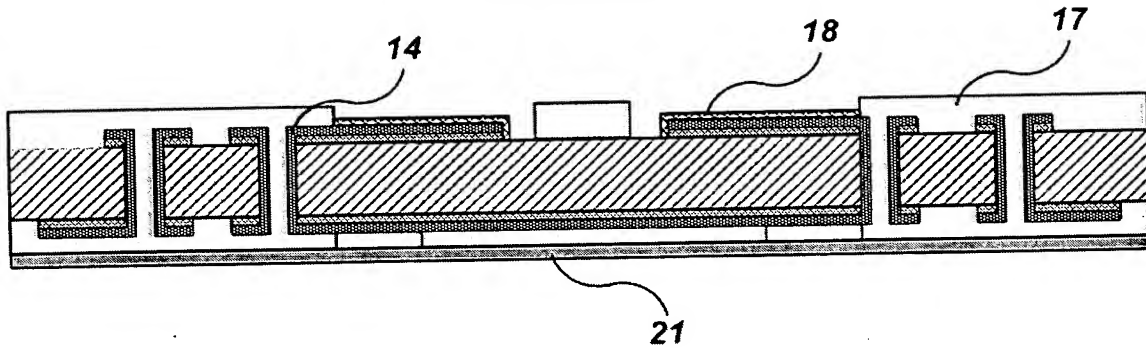
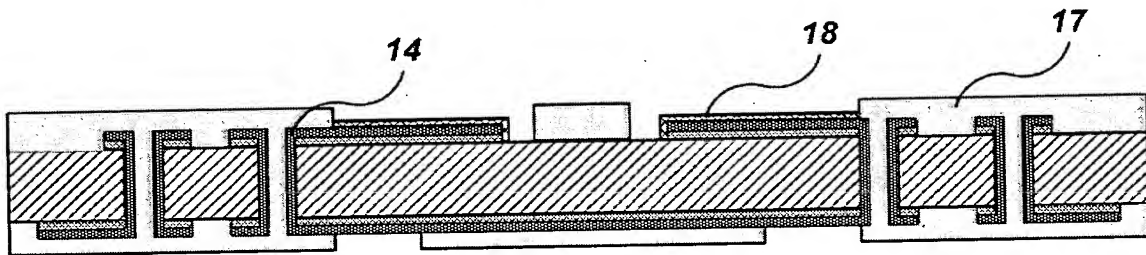


Fig. 4d

PRIOR ART



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Fig. 4e

PRIOR ART

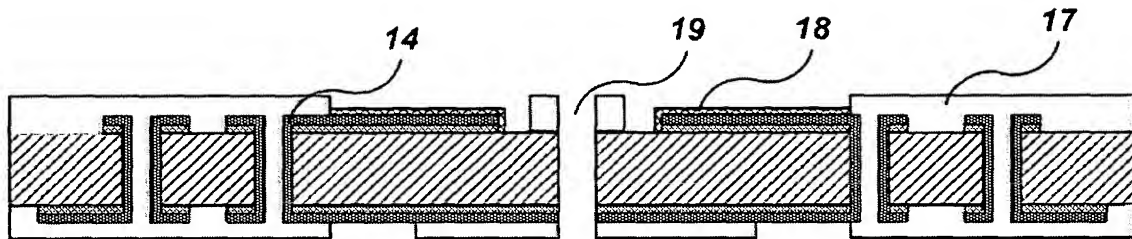
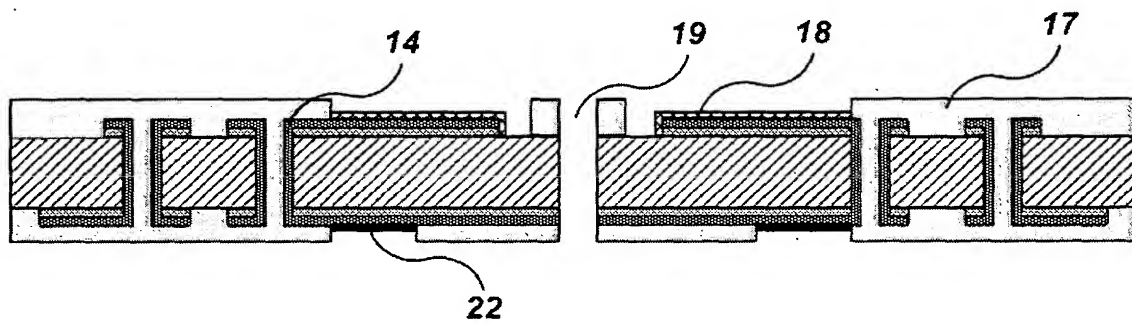


Fig. 4f

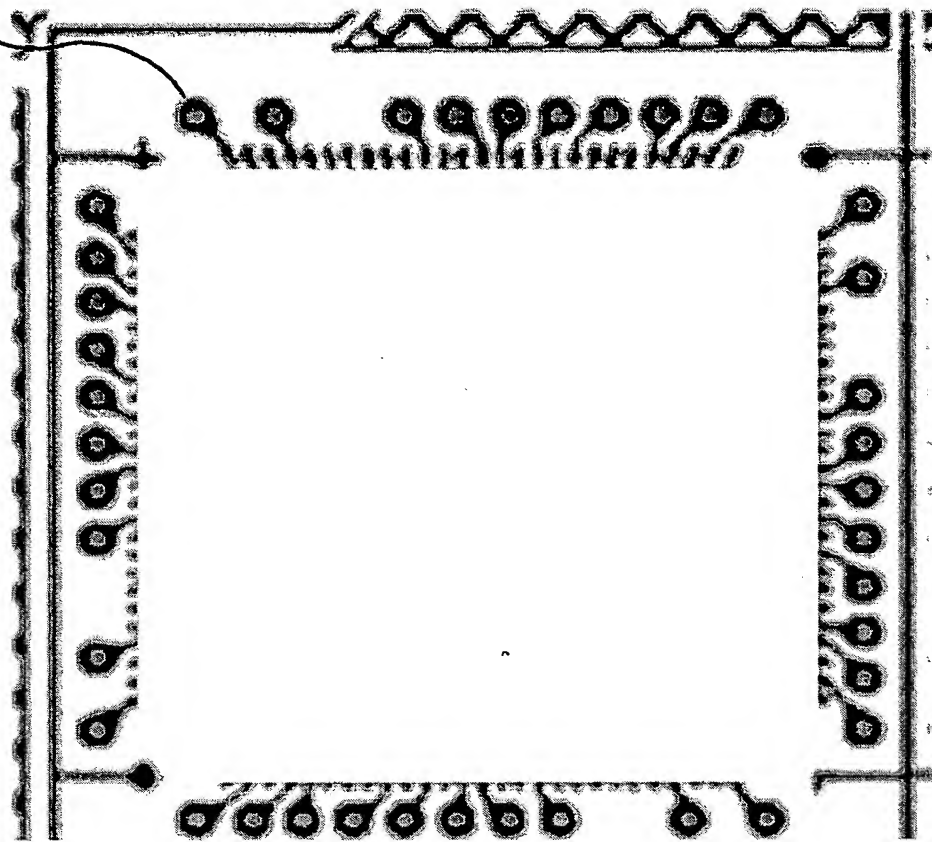
PRIOR ART



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Fig. 5

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Fig. 6a

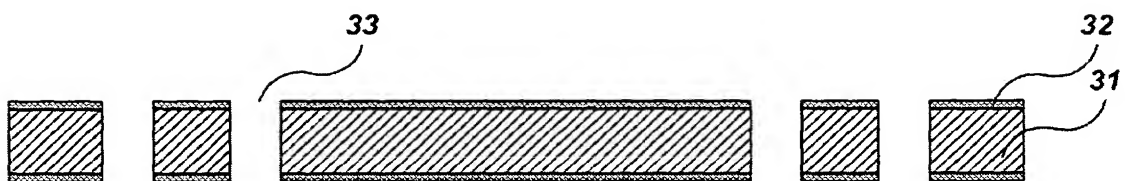


Fig. 6b

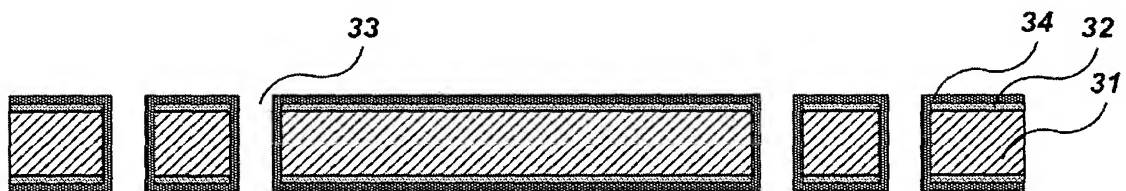
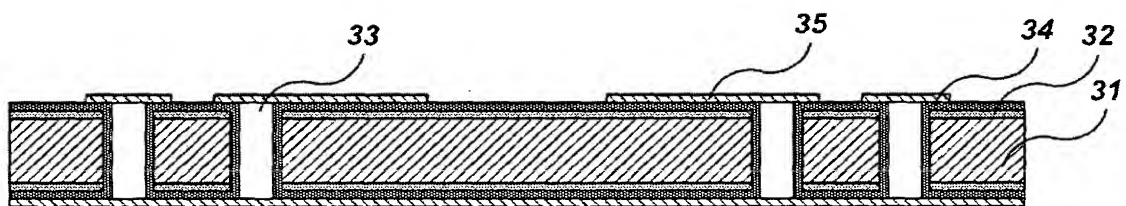


Fig. 6c



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Fig. 6d

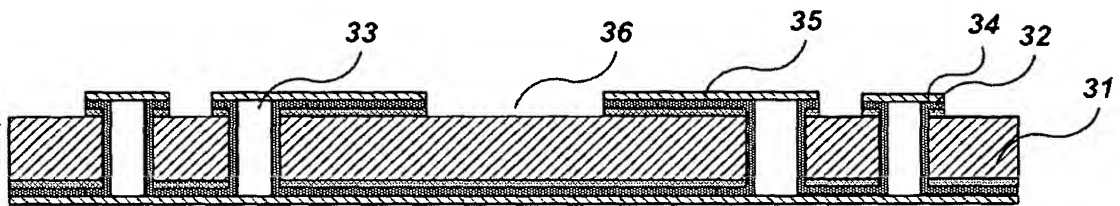


Fig. 6e

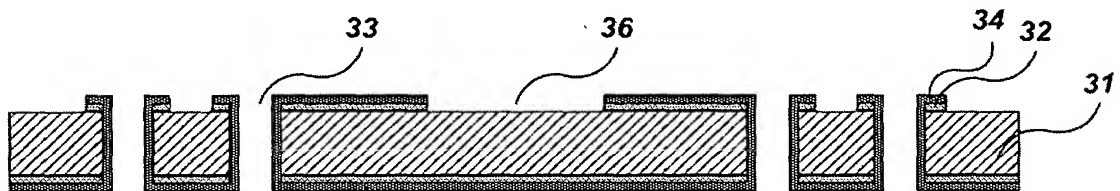
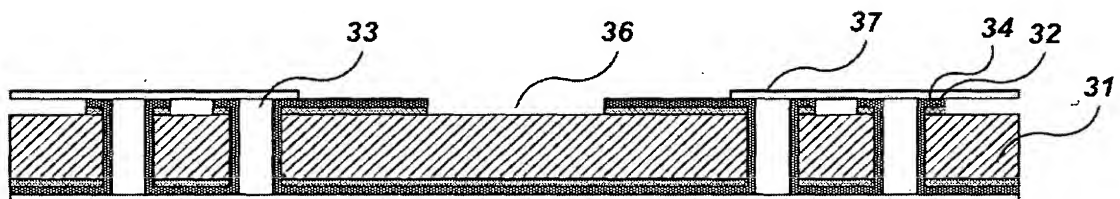


Fig. 6f



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Fig. 6g

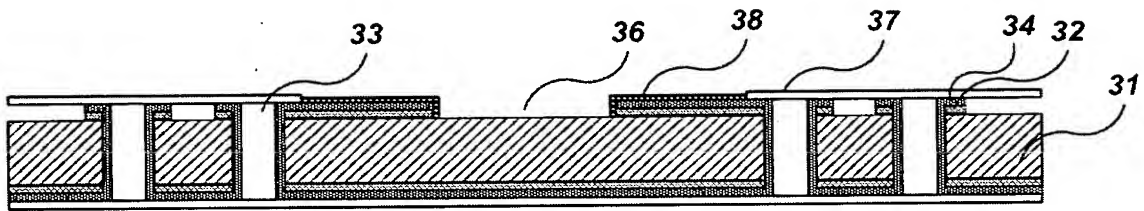


Fig. 6h

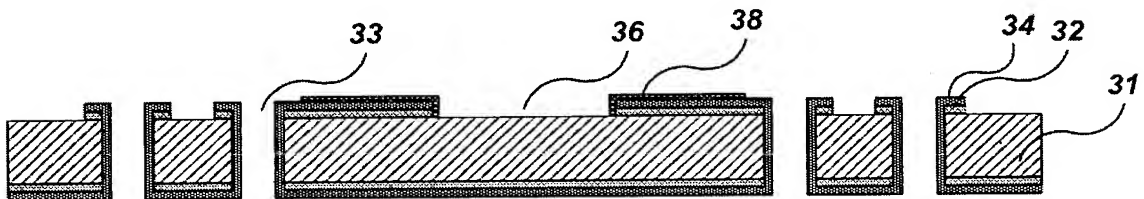
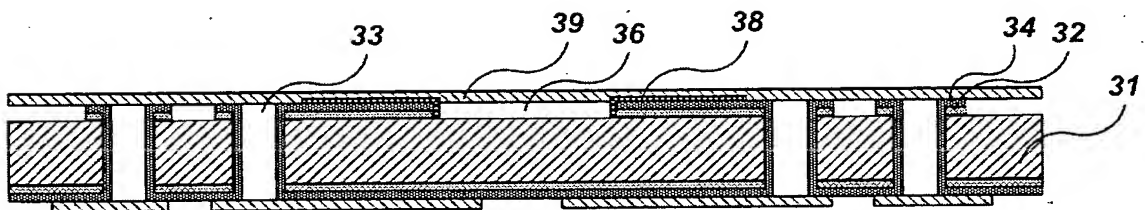


Fig. 6i



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Fig. 6j

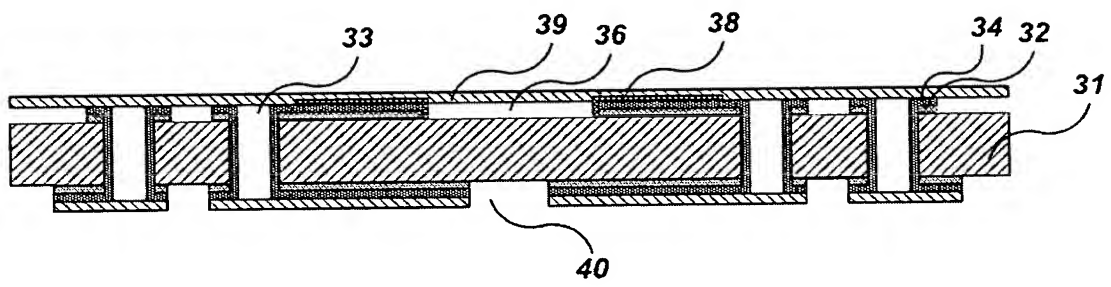
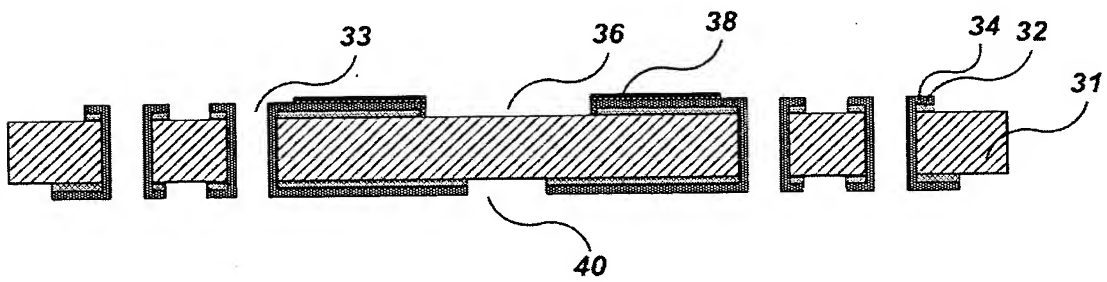


Fig. 6k



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Fig. 6l

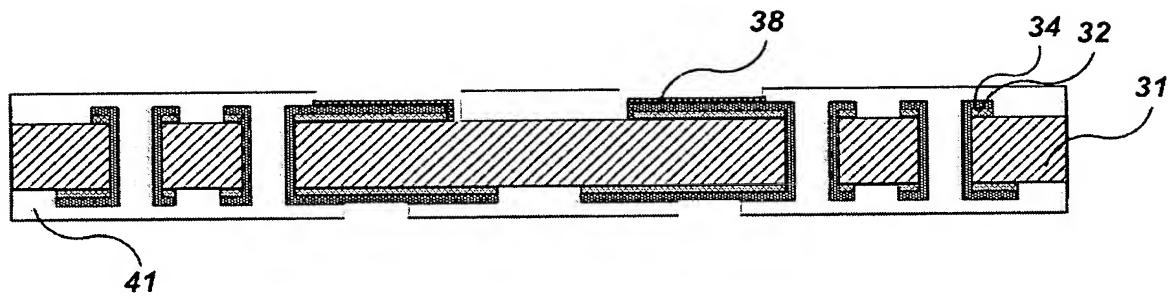
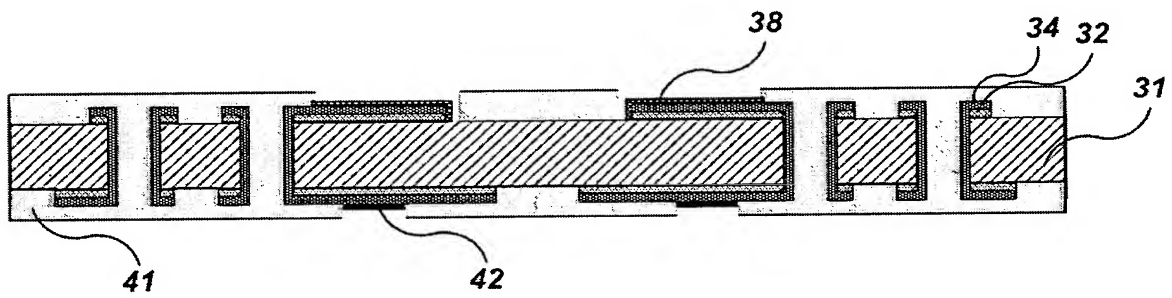


Fig. 6m



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Fig. 7a

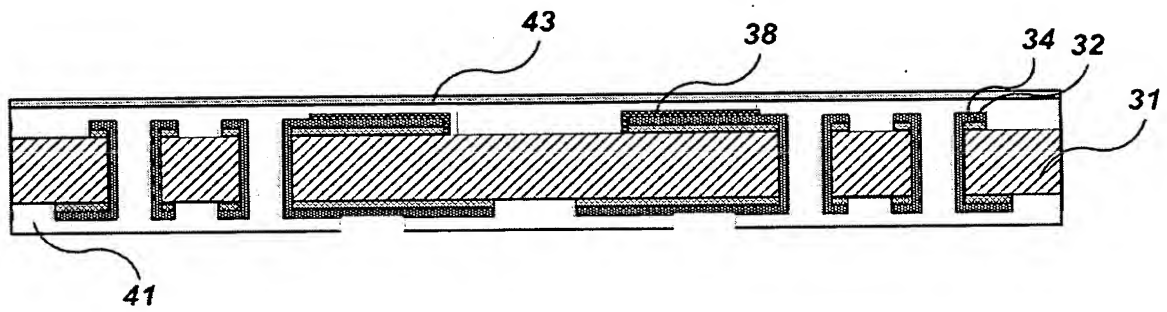
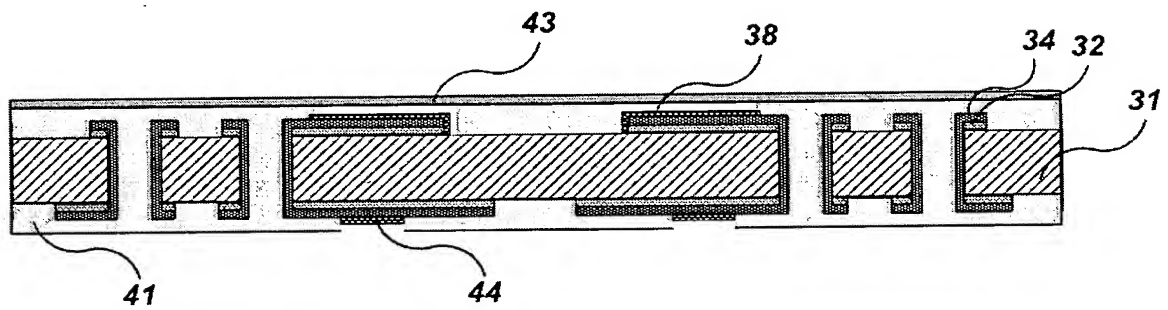


Fig. 7b



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Fig. 7c

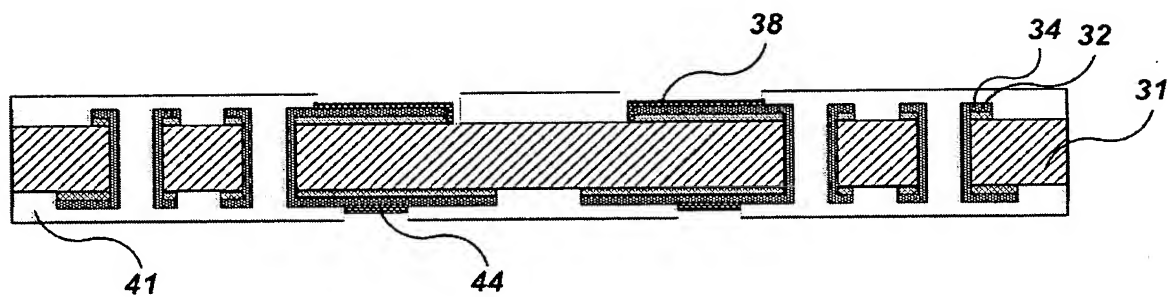


Fig. 8a

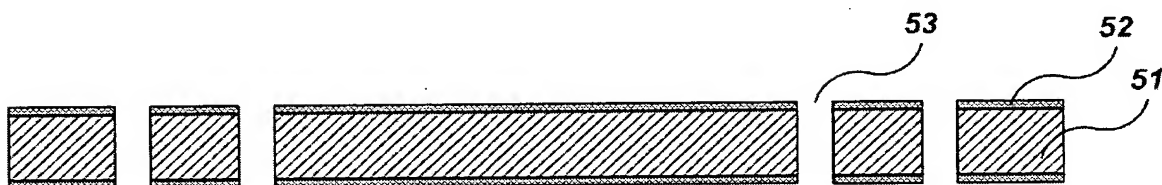
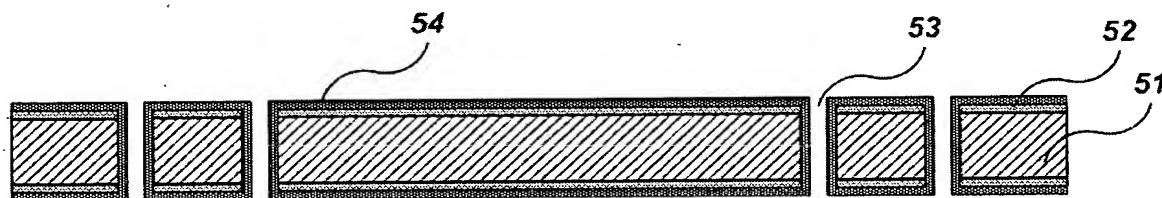


Fig. 8b



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Fig. 8c

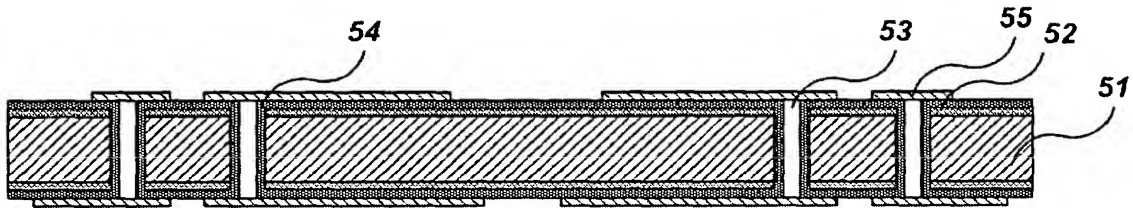


Fig. 8d

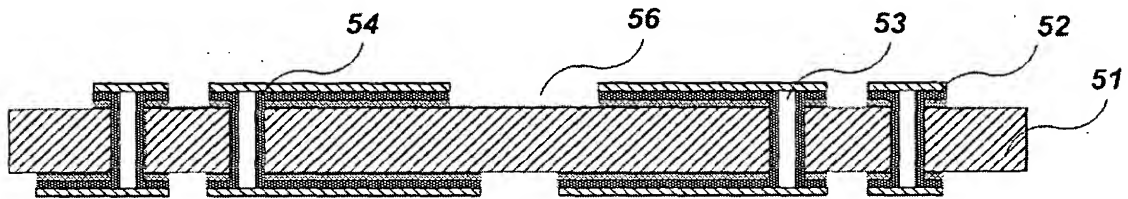
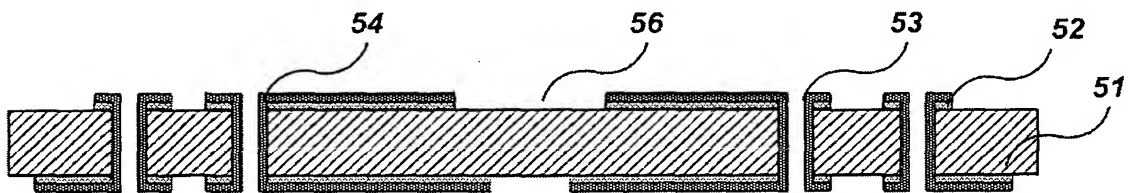


Fig. 8e



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Fig. 8f

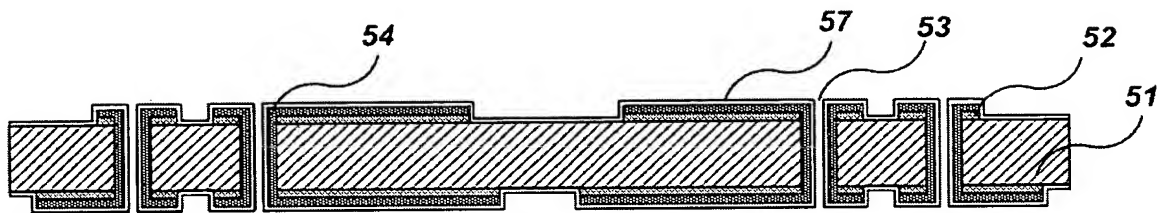


Fig. 8g

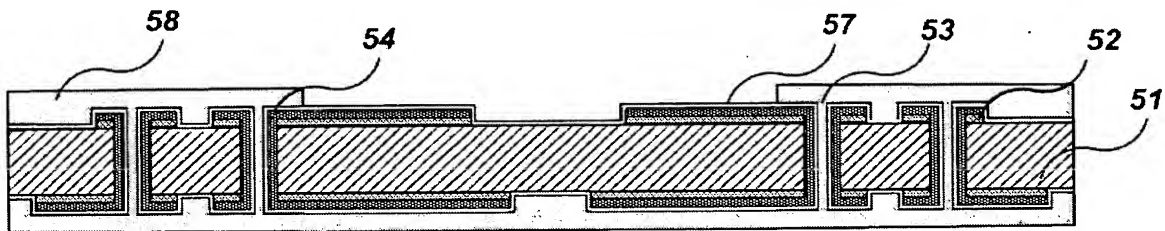
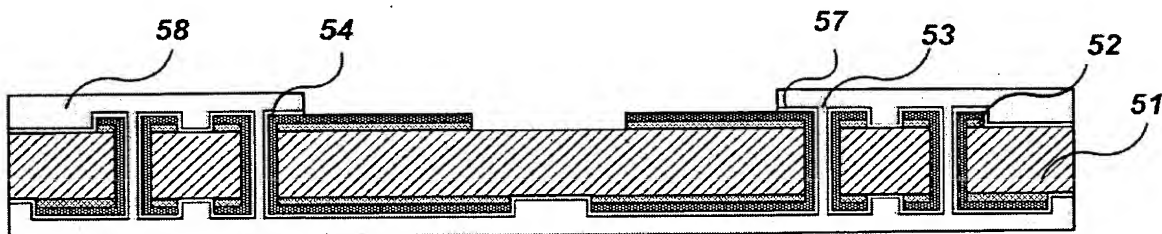


Fig. 8h



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Fig. 8i

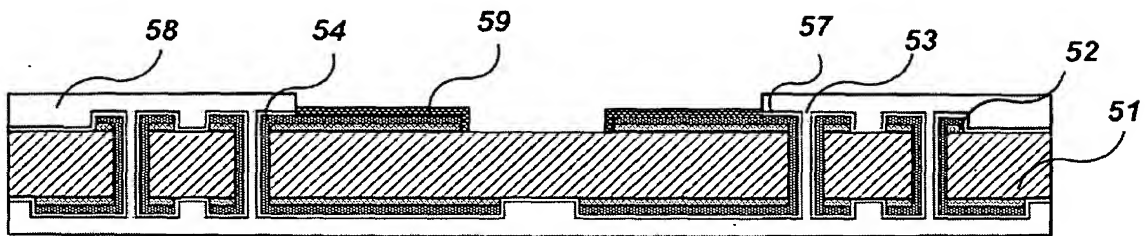


Fig. 8j

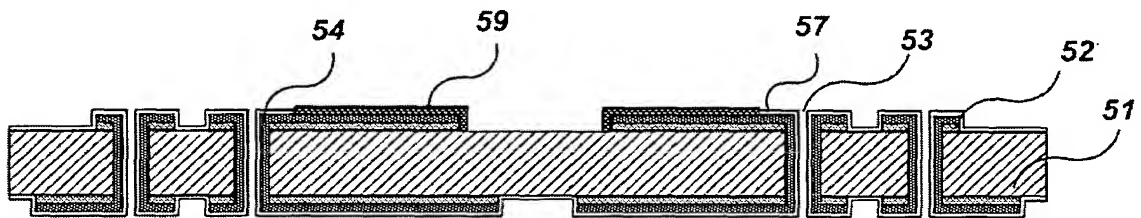
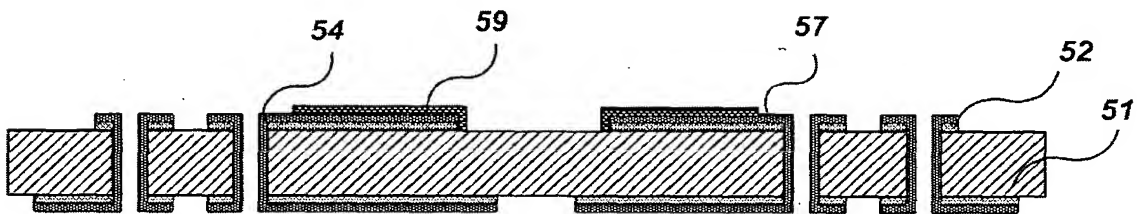


Fig. 8k



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Fig. 8l

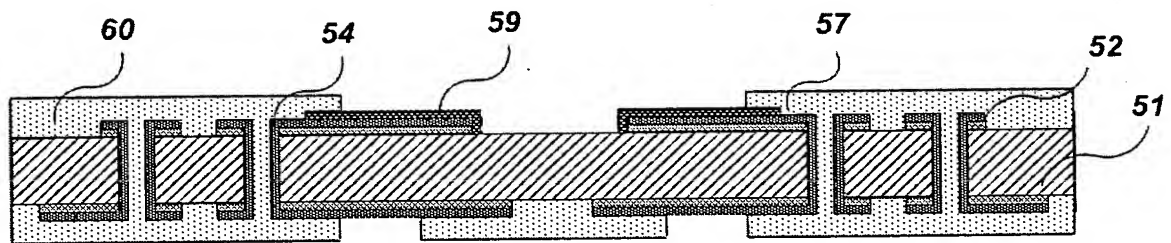
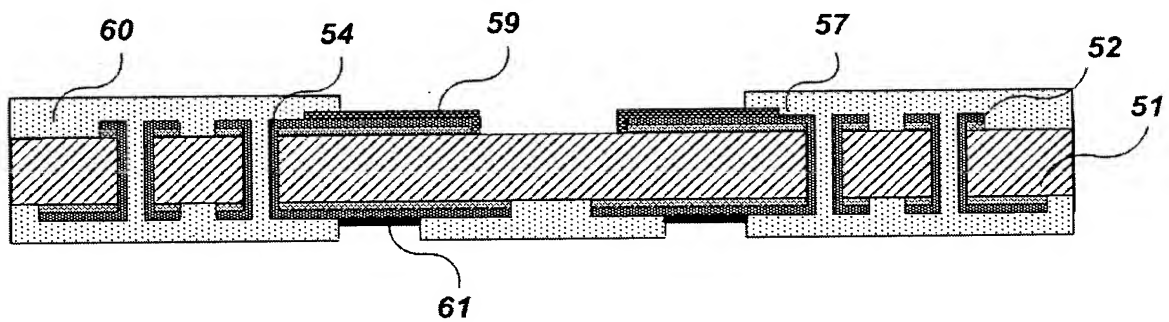
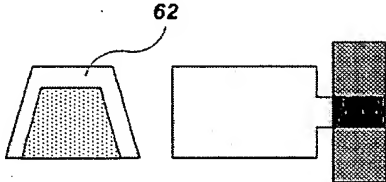
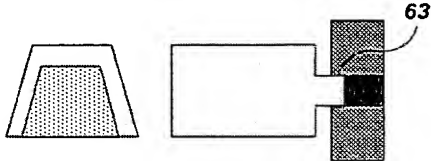
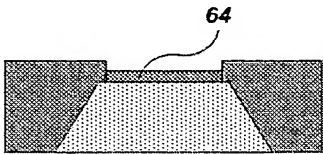
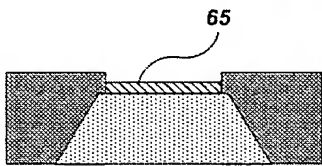
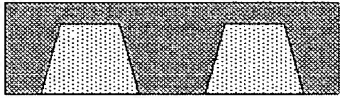
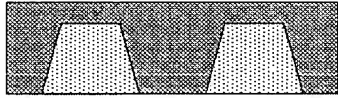


Fig. 8m



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Fig. 9

	With lead lines for use in electrolytic plating	Without lead lines for use in electrolytic plating
Bond finger	 A cross-sectional diagram showing a trapezoidal bond finger (62) on the left, a rectangular lead line in the middle, and a substrate with a central opening on the right. The lead line is positioned to bridge the gap between the bond finger and the substrate.	 A cross-sectional diagram showing a trapezoidal bond finger on the left, a rectangular lead line in the middle, and a substrate with a central opening on the right. The lead line is positioned to bridge the gap between the bond finger and the substrate.
Ball pad	 A cross-sectional diagram showing a trapezoidal ball pad (64) on the left, a rectangular lead line in the middle, and a substrate with a central opening on the right. The lead line is positioned to bridge the gap between the ball pad and the substrate.	 A cross-sectional diagram showing a trapezoidal ball pad (65) on the left, a rectangular lead line in the middle, and a substrate with a central opening on the right. The lead line is positioned to bridge the gap between the ball pad and the substrate.
Trace	 A cross-sectional diagram showing two trapezoidal traces on a substrate. The traces are positioned on either side of a central gap.	 A cross-sectional diagram showing two trapezoidal traces on a substrate. The traces are positioned on either side of a central gap.

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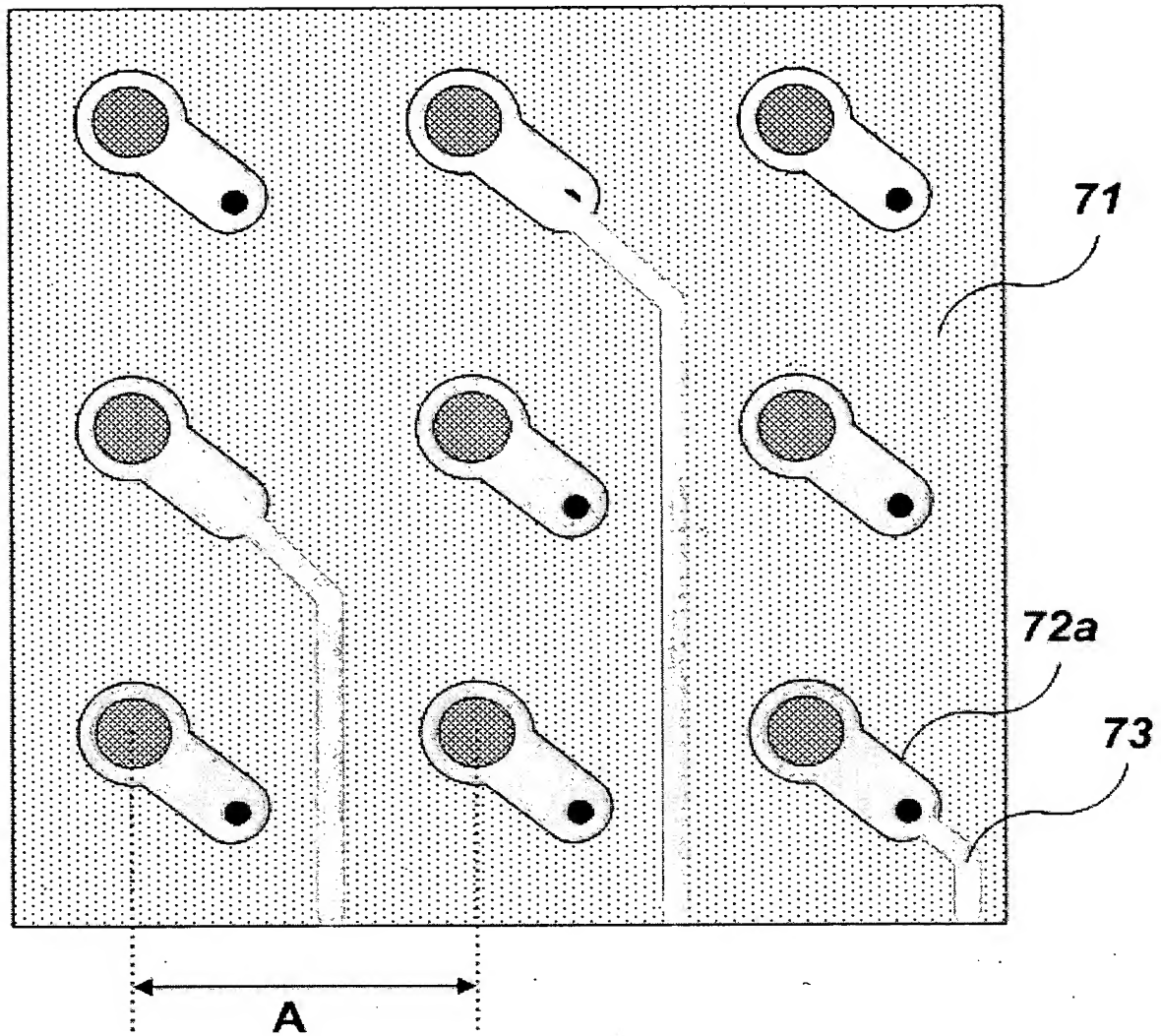
Fig. 10

Properties	With lead lines for use in electrolytic plating	Ball pad without lead lines -OSP	Ball pad without lead lines-electroless Au plating
Electrical performance	Low	High	High
Line density	Low	High	High
Reliability	Average	High	High
Productivity	High	Average	Average
Yield	High	High	High
Cost	Average	Average	Low
Lead Time	High	Low	Low

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Fig. 11a

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Fig. 11b

